

PROJECT NUMBER: 1503
PROJECT TITLE: Modified Smoking Materials
PROJECT LEADER: W. A. Nichols
PERIOD COVERED: April 1989

I. LOW DENSITY ROD - BINDER APPLICATION

A. Objective: Produce precoated filler via the batch or continuous process to support the current product and process development efforts on the low density rod program. Develop a method of pre-applying binders to the tobacco in a manner that can be scaled up to commercial scale.

B. Results: Sample coated fillers were produced for several Product Development tests. Significant differences in tobacco and pectin buildup in the cylinder were observed in coating different blends.

Additional testing was performed at increased throughputs of 70, 80, and 100 lb/hr. Cylinder operating parameters require additional refinement for higher throughputs.

C. Plans: Further experimentation will be done with spraying parameters to minimize the formation of pectin flakes.

II. BINDER TECHNOLOGY

A. Objective: Investigate the mechanism of filler bonding and stiffness produced by coating. Improve commercial feasibility by examining alternate binders and processes.

B. Results: Dry coating of pectin powder on filler continues to require different reactivation conditions than spray coated filler. To examine the effect, different levels of water overspray are being tested.

Two samples were produced using yucca as a surfactant. Yucca was applied separately and in combination with the pectin. At the level tested, the firmness of the low density cigarettes produced from control and surfactant treated filler were similar. Testing will be conducted with increased surfactant addition.

Improvements were made to the steam reactivation chamber to eliminate condensate problems. Reactivation testing of different levels of pectin addition to filler was started.

C. Plans: The difference in reactivation conditions for sprayed versus dry coated filler will be examined. Surfactants will be tested for effectiveness.